

provide additional strength to the paper web such that lint and slough can be minimized, while the hardwood fibers can help to provide a product that is soft. In addition, other ingredients, such as cross-linking agents, debonders, strength-agents, and the like, can also be selectively utilized to form paper webs having certain attributes.

IN THE CLAIMS:

Please cancel claims 1-55.

Please add the following claims:

Rule 126 ~~436~~ 56. A method for forming a paper product that includes at least one paper web, said paper web containing at least one layer formed primarily from hardwood fibers, said method comprising:

treating said hardwood fibers with a first hydrolytic enzyme to hydrolyze said hardwood fibers and form aldehyde groups predominantly on the surface of said hardwood fibers, wherein the dosage of said first hydrolytic enzyme is from about 0.1 to about 10 s.e.u. per gram of oven-dried pulp; and

R2 incorporating an additive into said paper web, said additive being selected from the group consisting of a cross-linking agent, a strength agent, a debonder, and combinations thereof.

~~114~~ 57. A method as defined in claim 56, wherein the dosage of said first hydrolytic enzyme is from about 0.1 to about 5 s.e.u. per gram of oven-dried pulp.

~~15~~ 58. A method as defined in claim 56, wherein the dosage of said first hydrolytic enzyme is from about 0.1 to about 2 s.e.u. per gram of oven-dried pulp.

~~48~~ 59. A method as defined in claim 56, wherein said paper web further comprises softwood fibers.

47
60. A method as defined in claim 59, wherein at least a portion of said softwood fibers are treated with a second hydrolytic enzyme capable of hydrolyzing said softwood fibers to form aldehyde groups predominantly on the surface of said softwood fibers.

48
61. A method as defined in claim 60, wherein the dosage of said second hydrolytic enzyme is from about 0.1 to about 10 s.e.u. per gram of oven-dried pulp.

49
62. A method as defined in claim 60, wherein the dosage of said second hydrolytic enzyme is from about 0.1 to about 5 s.e.u. per gram of oven-dried pulp.

50
63. A method as defined in claim 60, wherein the dosage of said second hydrolytic enzyme is from about 0.1 to about 2 s.e.u. per gram of oven-dried pulp.

51
64. A method as defined in claim 56, wherein said first hydrolytic enzyme comprises endo-glucanase.

52
65. A method as defined in claim 64, wherein said first hydrolytic enzyme comprises cellulose-binding domain free endo-glucanase.

53
66. A method as defined in claim 60, wherein said second hydrolytic enzyme comprises endo-glucanase.

54
67. A method as defined in claim 66, wherein said second hydrolytic enzyme comprises cellulose-binding domain free endo-glucanase.

55
68. A method as defined in claim 56, wherein a debonder is incorporated into said paper web.

56
69. A method as defined in claim 56, wherein a cross-linking agent is incorporated into said paper web.

57
70. A method as defined in claim 69, wherein said cross-linking agent comprises a starch.

Rob
126

58

71. A method as defined in claim 56, wherein said paper web is single-layered.

59

72. A method as defined in claim 56, wherein said paper web is multi-layered.

60

73. A method as defined in claim 72, wherein said paper web includes a first layer containing said hardwood fibers and a second layer containing softwood fibers.

61

74. A method as defined in claim 73, wherein at least a portion of said softwood fibers are treated with a second hydrolytic enzyme capable of hydrolyzing said softwood fibers to form aldehyde groups predominantly on the surface of said softwood fibers.

62

75. A method as defined in claim 73, wherein said first layer includes said additive.

R3

63

76. A method as defined in claim 73, wherein said second layer includes said additive.

64

77. A method for forming a paper product that includes at least one paper web, said paper web containing at least one layer formed primarily from hardwood fibers, said method comprising:

providing a first fibrous furnish containing hardwood fibers;

providing a second fibrous furnish containing softwood fibers;

treating said first fibrous furnish with a first hydrolytic enzyme capable of hydrolyzing said hardwood fibers to form aldehyde groups predominantly on the surface of said hardwood fibers, wherein the dosage of said first hydrolytic enzyme is from about 0.1 to about 5 s.e.u. per gram of oven-dried pulp;

optionally, treating said second fibrous furnish with a second hydrolytic enzyme capable of hydrolyzing at least a portion of the softwood fibers of said second fibrous furnish to form aldehyde groups predominantly on the surface of said portion of

Ref 126.
softwood fibers, wherein the dosage of said second hydrolytic enzyme is from about 0.1 to about 5 s.e.u. per gram of oven-dried pulp; and

forming the paper web from said first fibrous furnish and said second fibrous furnish.

65
~~78.~~ A method as defined in claim 77, wherein said first hydrolytic enzyme comprises cellulosic-binding-domain free endo-glucanase.

66
~~79.~~ A method as defined in claim 77, wherein said second hydrolytic enzyme comprises cellulosic-binding-domain free endo-glucanase.

67
~~80.~~ A method as defined in claim 77, further comprising the step of applying an additive to said first fibrous furnish, said second fibrous furnish, or combinations thereof, said additive being selected from the group consisting of a cross-linking agent, a strength agent, a debonder, and combinations thereof.

68
~~81.~~ A method as defined in claim 80, wherein said cross-linking agent is applied in an amount from about 1 to about 15 pounds per metric ton of the weight of the fibrous furnish.

69
~~82.~~ A method as defined in claim 80, wherein said cross-linking agent is applied in an amount from about 1 to about 10 pounds per metric ton of the weight of the fibrous furnish.

70
~~83.~~ A method as defined in claim 80, wherein said debonder is applied in an amount from about 1 to about 35 pounds per metric ton of the weight of the fibrous furnish.

71

Rule 124
-84. A method as defined in claim 80, wherein said debonder is applied in an amount from about 1 to about 10 pounds per metric ton of the weight of the fibrous furnish.

72

-85. A method as defined in claim 80, wherein said debonder is applied in an amount from about 2 to about 8 pounds per metric ton of the weight of the fibrous furnish.

73

-86. A method as defined in claim 80, wherein said paper web is multi-layered.

74

P2
-87. A method as defined in claim 86, wherein said additive is applied prior to forming said multi-layered paper web.

75

-88. A method as defined in claim 86, wherein said additive is applied after forming said multi-layered paper web.

76

-89. A method as defined in claim 88, wherein said additive is applied to said multi-layered paper web as said web is being dried.

77

-90. A method as defined in claim 89, wherein said additive comprises a debonder.

78

-91. A method as defined in claim 88, wherein said additive is applied to said multi-layered paper web after said web is dried.

79

-92. A method for forming a paper product that includes at least one paper web, said paper web containing at least one layer formed primarily from hardwood fibers, said method comprising:

providing a first fibrous furnish containing primarily hardwood fibers;

providing a second fibrous furnish containing primarily softwood fibers;

blending said first fibrous furnish with said second fibrous furnish;